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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,502	01/25/2002	Leon Chia-Liang Lin	01 P 15968 US (INF1 2322)	4351
29393	7590	07/27/2005	EXAMINER	
ESCHWEILER & ASSOCIATES, LLC NATIONAL CITY BANK BUILDING 629 EUCLID AVE., SUITE 1210 CLEVELAND, OH 44114			WONG, LINDA	
			ART UNIT	PAPER NUMBER
			2634	

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/057,502

Applicant(s)

LIN ET AL.

Examiner

Linda Wong

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 19-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 9, 13, 14, 19-23, 27 and 31-33 is/are rejected.
- 7) ☒ Claim(s) 6-8, 10-12, 24-26 and 28-30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

1. **Claims 1,5** are rejected under 35 U.S.C. 102(a) as being anticipated by the admitted prior art disclosed by the applicant (Figures 1 and 2).
 - a. **Claim 1**, the admitted prior art discloses an apparatus comprising an amplifier (Fig. 2, label 32), an analog-to-digital converter (A/D) (Fig. 2, label 36), a first automatic gain control (AGC) (Fig. 2, label 54).
 - b. **Claim 5**, the admitted prior art discloses a digital signal processing (DSP) (Fig. 2, label=s 38, 42,44,45), a slicer (Fig. 2, label 46), and a second AGC means (Fig. 2, label 56).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 2-4,9,13-14,19-23,27,31-33** are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art disclosed by the applicant (Figures 1 and 2) in view of Wu et al (US Patent No.: 6870891).
 - a. **Claim 2**, Although the admitted prior art does not disclose an AGC comprising a counter for counting the number of data elements above a threshold, Wu et al

discloses an AGC for adjusting the gain based on a count of the number of data elements above a threshold. (Fig. 2, Col. 2, lines 44-67 and Col. 3, lines 24-56)

It would be obvious to one skilled in the art to use the AGC disclosed by Wu et al to produce a quick gain with zero latency.

- b. **Claim 3**, Although the admitted prior art does not disclose the absolute value of the data, a counter and a first control signal to the first counter, Wu et al discloses computing the absolute value of the data, comparing it to a threshold and increase/decreasing a count value (Fig. 2, labels 31, and 34) and resetting the counter (Fig. 2, label CLK to label 34). It would be obvious to one skilled in the art to use the AGC disclosed by Wu et al to produce a quick gain with zero latency.
- c. **Claim 4**, Although the admitted prior art does not disclose a slicer, Wu et al discloses a counting method in which the counter increases and decreases based on whether the elements are above or below a threshold. It would be obvious to one skilled in the art to use the AGC disclosed by Wu et al to produce a quick gain with zero latency.
- d. **Claim 9**, the admitted prior art discloses an amplifier (Fig. 2, label 32), a digitizing means (Fig. 2, label 36), a second means for adjusting the first gain (Fig. 2, label 54), a digital signal processing (Fig. 2, labels 38, 42, 44, 45, and 40), a slicer (Fig. 2, label 46) and a second AGC (Fig. 2, label 56). Although the admitted prior art does not disclose a counter for counting the number of data elements within a range, Wu et al discloses an AGC comprising a counter for

counting the number of data elements within a range. (Fig. 2, Col. 2, lines 44-67 and Col. 3, lines 24-56). It would be obvious to one skilled in the art to disclose a counter, disclosed by Wu et al, in the AGC disclosed by the admitted prior art to correct the AGC more quickly.

- e. **Claim 13** inherits all the limitations of claim 3.
- f. **Claim 14** inherits all the limitations of claim 4.
- g. **Claim 19**, the admitted prior art discloses an amplifier (Fig. 2, label 32) for amplifier a first PAM signal (Fig. 2, label P1), a digitizing second PAM signal (Fig. 2, label 36). Although the admitted prior art does not disclose the components comprised in the AGCs, Wu et al discloses an AGC comprising a process of determining the number of data elements falling within a range and adjusting a gain when the number falls outside a second range. (Fig. 2, Col. 2, lines 44-67 and Col. 3, lines 24-56) It would be obvious to one skilled in the art to use Wu et al's AGC invention in the admitted prior art's invention to provide a quicker correcting AGC.
- h. **Claim 20** inherits all the limitations of claim 2.
- i. **Claim 21** inherits all the limitations of claim 3.
- j. **Claim 22** inherits all the limitations of claim 4.
- k. **Claim 23** inherits all the limitations of claim 9.
- l. **Claim 27** inherits all the limitations of claim 19, 2 and 5.
- m. **Claim 31** inherits all the limitations of claim 2.
- n. **Claim 32** inherits all the limitations of claim 3.

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- o. **Claim 33** inherits all the limitations of claim 4.

Allowable Subject Matter


3. **Claims 6-8, 10-12,24-26,28-30** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linda Wong whose telephone number is 571-272-6044. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LW


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